

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application

Inventors: Charles E. Taylor, Shek Fai Lau

Appl. No.: Unknown

Confirm. No.: Unknown

Filed: Herewith

Title: ELECTRO-KINETIC AIR TRANSPORTER  
CONDITIONER WITH PIN-RING ELECTRODE  
CONFIGURATION

PATENT APPLICATION

Art Unit: Unknown

Examiner: Unknown

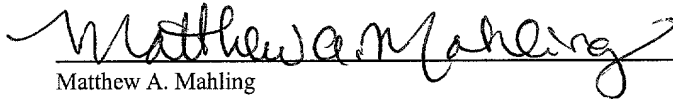
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(Signature)

Matthew A. Mahling

Signature Date: December 13, 2001

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination of the application, please amend the above-identified application as follows.

In the Specification:

On Page 1, above the title: Field of the Invention, please add the following Claim of Priority and

Cross-Reference to related Patent Applications:

Claim of Priority:

This application claims priority from provisional application entitled "FOCUS ELECTRODE, ELECTRO-KINETIC AIR TRANSPORTER-CONDITIONER DEVICES," Application No. 60/306,479, filed July 18, 2001 under 35 U.S.C. 119(e), which application is incorporated herein by reference. This application is a continuation of U.S. Patent Application No. 09/730,499 filed December 5, 2000, which is a continuation of U.S. Patent Application No. 09/186,471 filed November 5, 1998, now U.S. Patent No. 6,176,977, all of which are incorporated herein by reference.

Cross-Reference to Concurrently Filed Present Applications:

1. U.S. Patent Application No. 60/xxx,xxx, filed herewith, entitled "ELECTRO-KINETIC AIR TRANSPORTER-CONDITIONER DEVICES WITH AN UPSTREAM FOCUS ELECTRODE"; SHPR-01041US6
2. U.S. Patent Application No. 60/xxx,xxx, filed herewith, entitled "ELECTRO-KINETIC AIR TRANSPORTER-CONDITIONER DEVICES WITH TRAILING ELECTRODE"; SHPR-01041USE
3. U.S. Patent Application No. 60/xxx,xxx, filed herewith, entitled "ELECTRO-KINETIC AIR TRANSPORTER-CONDITIONER DEVICES WITH INTERSTITIAL ELECTRODE"; SHPR-01041USF
4. U.S. Patent Application No. 60/xxx,xxx, filed herewith, entitled "ELECTRO-KINETIC AIR TRANSPORTER-CONDITIONER DEVICES WITH ENHANCED COLLECTOR ELECTRODE"; SHPR-01041USG

5. U.S. Patent Application No. 60/xxx,xxx, filed herewith, entitled "ELECTRO-KINETIC AIR TRANSPORTER-CONDITIONER DEVICES WITH ENHANCED EMITTER ELECTRODE"; SHPR-01041USH

6. U.S. Patent Application No. 60/xxx,xxx, filed herewith, entitled "ELECTRO-KINETIC AIR TRANSPORTER AND CONDITIONER DEVICE WITH ENHANCED ANTI-MICROORGANISM CAPABILITY"; SHPR-01028US1

7. U.S. Patent Application No. 60/xxx,xxx, filed herewith, entitled "ELECTRO-KINETIC AIR TRANSPORTER AND CONDITIONER DEVICE WITH ENHANCED HOUSING CONFIGURATION AND ENHANCED ANTI-MICROORGANISM CAPABILITY"; SHPR-01028US2

8. U.S. Patent Application No. 60/xxx,xxx, filed herewith, entitled "ELECTRO-KINETIC AIR TRANSPORTER AND CONDITIONER DEVICE WITH ENHANCED MAINTENANCE FEATURES AND ENHANCED ANTI-MICROORGANISM CAPABILITY"; SHPR-01028US3

9. U.S. Patent Application No. 60/xxx,xxx, filed herewith, entitled "ELECTRO-KINETIC AIR TRANSPORTER-CONDITIONER WITH NON-EQUIDISTANT COLLECTOR ELECTRODES"; SHPR-01041US8

10. U.S. Patent Application No. 60/xxx,xxx, filed herewith, entitled "DUAL INPUT AND OUTLET ELECTROSTATIC AIR TRANSPORTER-CONDITIONER"; SHPR-01041US7 and

11. U.S. Patent Application No. 60/xxx,xxx, filed herewith, entitled "ELECTRO-KINETIC AIR TRANSPORTER-CONDITIONER DEVICES WITH A ENHANCED COLLECTOR ELECTRODE FOR COLLECTION OF MORE PARTICULATE MATTER". SHPR-01041US9

All of the above references are incorporated herein by reference.

In the Claims:

Please cancel claims 1-24. Please add new claims 25-61. All pending claims are reproduced below, including those that remain unchanged.

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25. An electro-kinetic air transporter-conditioner system comprising:

an upstanding, elongated housing with an air inlet vent and an air outlet vent;

an ion generating unit positioned in said housing, said ion generating unit having a plurality of pin-ring electrode configurations located one above the other; and

each of said pin-ring electrode configurations including a first pin electrode that is directed toward a second ring electrode.

26. The system of claim 25 wherein each said pin-ring electrode configuration includes said first pin electrode that is pointed.

27. The system of claim 25 wherein each said pin-ring electrode configuration includes said first pin electrode that is triangle-shaped.

28. The system of claim 25 including a user control that can do at least one of (1) cause the system to be energized, (2) control a duty cycle of the ion generating unit, (3) control a pulse mode operation.

29. The system of claim 25 including user controls that can (1) cause the system to be energized, (2) control a duty cycle of the ion generating unit, (3) control a pulse mode operation.

30. The system of claim 28 wherein the pulse mode control can initiate a burst of output ozone.

31. The system of claim 29 wherein the pulse mode control can initiate a burst of output ozone.

32. The system of claim 25 wherein said housing has elongated recesses.

33. The system of claim 25 wherein said ion generating unit includes a high voltage pulse generator.

34. The system of claim 25 wherein said air inlet vent is covered with horizontal louvers and said air outlet vent is covered with horizontal louvers.

35. The system of claim 25 including a user control located on said top of said housing.
36. The system of claim 25 wherein said first pin electrodes are located adjacent the air inlet vent and the second ring electrodes are located adjacent the air outlet vent.
37. The system of claim 25 wherein said inlet vent and said exhaust vent are elongated along a length of said elongated housing.
38. The system of claim 25 wherein each of said first pin electrodes includes a plurality of conductive fibers.
39. The system of claim 25 wherein said housing has a cross-section in the shape of a figure eight.
40. The system of claim 25 wherein said air inlet vent and said air outlet vent have louvers that are directed across a direction of elongation of said housing.
41. The system of claim 25 wherein said second ring electrode has a skirt region surrounding an opening.
42. The system of claim 25 wherein said first pin electrode points in a downstream direction.



43. The system of claim 25 wherein when energized said ion generating unit causes air to flow in a downstream direction from said first pin electrode toward said second ring electrode.

44. An electro-kinetic air transporter-conditioner system comprising:  
an upstanding, elongated housing with an air inlet vent and an air outlet vent;  
said inlet vent and said outlet vent being elongated along a length of said elongated housing;  
an ion generating unit positioned in said housing, said ion generating unit having a pin-ring electrode configuration; and  
the pin-ring electrode configuration including a first pin electrode that directed in a downstream direction toward a second ring electrode.

45. The system of claim 44 wherein said first pin electrode that is pointed.

46. The system of claim 44 wherein said first pin electrode that is triangle-shaped.

47. The system of claim 44 including a user control that can do at least one of (1) cause the system to be energized, (2) control a duty cycle of the ion generating unit, (3) control a pulse mode operation.

48. The system of claim 44 including user controls that can (1) cause the system to be energized, (2) control a duty cycle of the ion generating unit, (3) control a pulse mode

operation.

49. The system of claim 47 wherein the pulse mode control can initiate a burst of output ozone.

50. The system of claim 48 wherein the pulse mode control can initiate a burst of output ozone.

51. The system of claim 44 wherein said housing has elongated recesses.

52. The system of claim 44 wherein said ion generating unit includes a high voltage pulse generator.

53. The system of claim 44 wherein said air inlet vent is covered with horizontal louvers and said air outlet vent is covered with horizontal louvers.

54. The system of claim 44 including a user control located on said top of said housing.

55. The system of claim 44 wherein said first pin electrode is located adjacent the air inlet vent and the second ring electrode is located adjacent the air outlet vent.

56. The system of claim 44 wherein said housing has a cross-section in the shape of a figure eight.

57. The system of claim 44 wherein said air inlet vent and said air outlet vent have louvers that are directed across a direction of elongation of said housing.

58. The system of claim 44 wherein said second ring electrode has a skirt region surrounding an opening.

59. The system of claim 44 wherein when energized said ion generating unit causes air to flow in the downstream direction from said first pin electrode toward said second ring electrode.

60. The system of claim 44 wherein said first pin electrode includes a plurality of conductive fibers.

61. An electro-kinetic air transporter-conditioner system comprising:  
an upstanding, elongated housing with a top and an air inlet vent and an air outlet vent;  
said air inlet vent is elongate along a direction of elongation of said housing;  
said air outlet vent is elongate along the direction of elongation of said housing;  
an ion generating unit positioned in said housing, said ion generating unit having a plurality of pin-ring electrode configurations located one above the other in an elongated manner; and  
a user operated control located on the top of said housing.

**REMARKS**

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Continued examination and allowance is requested.

Respectfully submitted,

Date: December 13, 2001

By:  \_\_\_\_\_

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